

Notice of Allowability

Application No.

10/000,052

Examiner

Kristen Mullen

Applicant(s)

BRADLEY, KERRY

Art Unit

3762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/6/05 (response).
2. ☒ The allowed claim(s) is/are 1-19 and 38-51.
3. ☒ The drawings filed on 01 November 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 1/11/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

2. This application is in condition for allowance except for the presence of claims 20-37 directed to a species non-elected without traverse.

Accordingly, the application has been amended as follows:

Claims 20-37 have been cancelled

REASONS FOR ALLOWANCE

3. The following is an examiner's statement of reasons for allowance:

With respect to claims 1-44, the prior art of record fails to teach or suggest a method comprising processing cardiac depolarization or contraction information to obtain a value and comparing the value to both an evoked response parameter and a loss of capture parameter and implementing a technique comprising either capture techniques or fusion avoidance techniques.

Regarding claims 45-51, the prior art of record fails to teach or suggest a sensor, a processor configured to determine a value from the sensor information comprising at least one of an integral and derivative value and to determine a fusion parameter and a loss of capture parameter comprising statistics.

Florio (6,324,427) shows an apparatus that measures attributes of T-waves (repolarizations, yet associated with depolarizations). The attributes can include the slope (derivative) of the T-wave. Florio discriminates between fusion and capture (evoked response)

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by determining whether a particular T-wave is varies from a reference T-wave by a more or less than a prescribed amount. If the variance from the reference T-wave is greater than the prescribed amount, then the T-wave is considered to be a fusion beat, and if it is within the prescribed variance, then it is considered to be capture. Florio does not disclose comparing a value to an evoked response parameter and a loss of capture parameter, nor does Florio disclose determining a statistical fusion parameter and a statistical loss of capture parameter from sensor information.

Lu et al. (5,391,192) shows an apparatus that utilizes the integral of the evoked response over a QRS window, and utilizes this value in calculating and adjusting the capture threshold value.

Poore et al. (6,731,985) shows a fusion avoidance subroutine that differentiates between fusion and capture by determining whether the coefficient of variation of PDI calculations is less than a specific value, or if the standard deviation is less than the gain multiplied by a factor. Poore does not differentiate between loss of capture and fusion or between loss of capture and an evoked response (capture) by comparing a value with an evoked response parameter and a loss of capture parameter. Furthermore, Poore et al. does not show determining a statistical fusion parameter and a statistical loss of capture parameter from sensor information.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristen Mullen whose telephone number is (571) 272-4944. The examiner can normally be reached on M-F, 10:30 am-6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on (571) 272-4955. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kristen Mullen

kdm

Kennedy Schaezle
KENNEDY SCHAETZLE
PRIMARY EXAMINER
4/1/05